ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

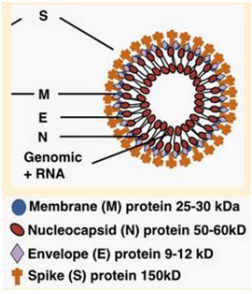
Life Technologies™ Your Molecular & Cell Technology Partner

Middle East Respiratory Syndrome Coronavirus (MERS-CoV)Spike protein S1 Antibodies

Cat # MERSS12-A Rabbit Anti-MERS-CoV Spike protein (S1) protein peptide, C-terminal IgG, aff pure **Size**: 100 ul

MERS is a viral respiratory infection caused by the newly identified **MERS-coronavirus (MERS-CoV).** MERS-CoV is a betacoronavirus derived from bats. Camels have been shown to have antibodies to MERS-CoV, but the exact source of infection in camels has not been identified. A strain of MERS-CoV known as HCoV-EMC/2012 found in the first patient in London in 2012 was found to have a 100% match to Egyptian tomb bats. Early reports compared the virus to severe acute. respiratory syndrome (SARS), and it has been referred to as Saudi Arabia's SARS-like virus. ERS can range from asymptomatic disease to severe pneumonia leading to the acute respiratory distress syndrome. Renal failure, disseminated intravascular coagulation (DIC) and pericarditis have also been reported. MERS have high fatality rate, 77 deaths in 187 confirmed cases. MERS-CoV has been reported or by direct or indirect contact with others who have a travel history consistent with exposure in the Middle East. However, the origin of the infection in most cases remains unknown. Sera samples from European sheep, goats, cattle, and other camelids had no such antibodies. Human or animals diagnostic serology is based upon PCR or ELISA or antibody neutralization tests.

The virus MERS-CoV is a new member of the beta group of coronavirus, Betacoronavirus, lineage C. MERS-CoV genomes are phylogenetically classified into two clades, clade A and B. and is more closely related to the bat coronaviruses HKU4 and HKU5 (lineage 2C) than it is to SARS-CoV (lineage 2B) (2, 9), sharing more than 90% sequence identity with their closest relationships, bat coronaviruses HKU4 and HKU5.



Coronaviruses are a positive ssRNA genome of about 27-32kb that codes for structural protein genes - namely the **Spike (S), Envelope (E), Membrane (M), and Nucleocapsid (N)** genes - as well as the Polymerase. The presence of MERS viral antibodies (N, E and S) have been used to detect the infected animal or humans. MERS-CoV utilizes **receptor, dipeptidylpeptidase 4** (**DPP4**), for binding to DPP4-expressing cells via the Spike protein. S1 subunit mediates virus binding to cells expressing DPP4 through its **receptor-binding domain (RBD, 367-606 a.a)** region and an **S2** subunit that mediates virus-cell membrane fusion. A truncated RBD domain (377-588)-Fc protein binds efficiently to DPP4. Antibodies to the RBD domain also protect animals from MERS infection.

Source of Antigen and Antibodies

Antigen	A synthetic peptide corresponding to the C-terminus of the S1 subunit of Novel coronavirus(HCoV-EMC/2012) spike glycoprotein (S protein).
Ab Host/type	Rabbit, Polyclonal IgG, aff pure (Cat# MERSS12-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage

pure IgG

100 ul solution lyophilized powder
Buffer: PBS pH 7.4, with 5% Trehalose and 0.05% azide
Reconstitute powder in 100 ul water

Stability: 6-12 months at –20oC or below.

Recommended Usage

Western Blotting: An initial dilution of 1:500-2K is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

ELISA (1:10-50K; using 50-100 ng antigen/well).

Histochemistry & Immunoflourescence: not tested.

Specificity and cross reactivity : The antibody reacts with S1 subunit of Novel coronavirus(HCoV-EMC/2012) Spike protein (S protein) and full-length S protein. Spike glycoprotein sequence is conserved in bat coronavirus strains HKU4 (62%), HKU5 (58%), and btCoV (58%) strains. Cross reactivity with other proteins hasn't been established. Antibodies and recombinant proteins to various MERS CoV proteins are available for control studies.

General References: .Sandervan (2012) mBio.3:e00473-12.2; .Muller MA (2012) mBio3(6):e00515-12.; ChanJF (2012) JInfect.65(6):477-89. Hemida, MG (2013) Euro Surveillance 18 (50). Guery B (2013) Lancet; 381:2265.

This product is for in vitro research use only.

Related material available from ADI

Catalog# ProdDescription

MERSS12-A Rabbit Anti-MERS-CoV Spike protein S1 protein peptide, C-terminal IgG, aff pure
MERSS15-R-10 Recombinant (HEK) Purified MERS-CoV Spike protein S1 (18-725 a.a, His-tag, ~94 kda, low Endotoxin), active
MERSS16-R-10 Recombinant (Sf9) Purified MERS-CoV Spike protein S1 (18-725 a.a, His-tag, ~94 kda, low Endotoxin), active
MERSS21-M Mouse monoclonal Anti-MERS-CoV Spike protein S2 (726-1296 a.a) IgG, aff pure
MERSS22-A Rabbit Anti-MERS-CoV Spike protein S2 (726-1296 a.a) IgG, aff pure
MERSS25-R-10 Recombinant (Sf9) MERS-CoV Spike Protein S2 (726-1296 a.a, His-tag, ~66 kDa, low endotoxin) purified

RV-402200-1 Recombivirus Human Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402210-1 Recombivirus Camel Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402220-1 Recombivirus Bat Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402230-1 Recombivirus Pig Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402240-1 Recombivirus Cow Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests
RV-402250-1 Recombivirus Goat/Sheep Anti-Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Spike protein 1 (S1) antibody (IgG) ELISA kit, 96 tests

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